

401 KAR 59:225. New miscellaneous metal parts and products surface coating operations.

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
Department for Environmental Protection
Division for Air Quality

Relates to: KRS Chapter 224.20-100, 224.20-110, 224.20-120

Pursuant to: KRS 13.082, 224.10-110

Necessity and Function: KRS 224.10-100 requires the Department for Natural Resources and Environmental Protection to prescribe regulations for the prevention, abatement and control of air pollution. This regulation provides for the control of volatile organic compound emissions from new miscellaneous metal part and products surface coating operations.

Section 1. Definitions.

As used in this regulation, all terms not defined in this section shall have the meaning given to them in 401 KAR 50:010.

- (1) "Affected facility" means a coating line located at job shops and original equipment manufacturing industries which apply coatings on metal substrates not elsewhere subject to regulation in this chapter.
- (2) "Applicator" means the mechanism or device used to apply the coating, including but not limited to: dipping, spraying, or flow-coating.
- (3) "Flashoff area" means only one (1) film of coating is applied to the metal substrate.
- (4) "Single coat" means only one (1) film of coating is applied to the metal substrate.
- (5) "Prime coat" means the first of two (2) or more films of coating applied in an operation.
- (6) "Topcoat" means the final film or series of films of coating applied in a two (2) coat (or more) operation.
- (7) "Coating line" means a series of equipment or operations used to apply, dry, or cure any prime, topcoat or single coatings containing volatile organic compounds (VOCs). This shall include, but is not limited to:
 - (a) Mixing operations;
 - (b) Process storage;
 - (c) Applicators;
 - (d) Drying operations including, but not limited to, flashoff area evaporation, oven drying, baking, curing, and polymerization;
 - (e) Clean up operation;
 - (f) Leaks, spills and disposal of VOCs;
 - (g) Processing and handling of recovered VOCs;
 - (h) For the purposes of determining compliance with this regulation, if equipment or an operation is considered to be a part of more than one (1) coating line, its VOC emissions shall be assigned to each coating line of which it is a part proportionally to the throughput of VOC it receives from or distributes to each coating line;

- (i) If a portion of the series of equipment or operations qualify for an exemption according to Section 6, then that portion shall be considered to be a separate coating line.
- (8) "Process storage" means mixing tanks, holding tanks, and other tanks, drums, or other containers which contain surface coatings, VOCs, or recovered VOCs; but does not mean storage tanks of petroleum liquids which are subject to 401 KAR 59:050, 401 KAR 59:052, or 401 KAR 61:050.
- (9) "Miscellaneous metal parts and products" means items including but not limited to:
 - (a) Large farm machinery (harvesting, fertilizing and planting machines, tractors, combines, etc.);
 - (b) Small farm machinery (lawn and garden tractors, lawn mowers, rototillers, etc.);
 - (c) Small appliances (fans, mixers, blenders, crock pots, dehumidifiers, vacuum cleaners, etc.);
 - (d) Commercial machinery (computers and auxiliary equipment, typewriters, calculators, vending machines, etc.);
 - (e) Industrial machinery (pumps, compressors, conveyer components, fans, blowers, transformers, etc.);
 - (f) Fabricated metal products (metal covered doors, frames, etc.); and
 - (g) Any other industrial category not otherwise subject to regulation in this chapter which coats metal parts or products.
- (10) "Heat sensitive material" means materials which cannot be exposed to temperatures greater than eighty-two (82) to ninety- three (93) °C (180° - 200°F).
- (11) "Air or forced air-dried items" means parts that are too large or too heavy for practical size ovens; parts that are sensitive to heat; parts to which heat sensitive materials are attached; or equipment assembled prior to top coating for specific performance or quality standards.
- (12) "Outdoor or harsh exposure or extreme environmental conditions" means exposure to any of the following: year round weather conditions, temperatures consistently above ninety-five (95) °Celsius, detergents, scouring, solvents, corrosive atmospheres; and similar environmental conditions.
- (13) "Classification date" means February 4, 1981.
- (14) "VOCs net input" means the total amount of VOCs input to the affected facility minus the amount of VOCs that are not emitted into the atmosphere. VOCs that are prevented from being emitted to the atmosphere by the use of control devices shall not be subtracted from the total for the purposes of determining VOCs net input. If the nature of an operation or a design of equipment permits more than one (1) interpretation of this definition, the interpretation that results in the minimum value for allowable emissions shall apply.
- (15) "Glass Primer" means a primer applied to the body of a vehicle to etch the topcoat for the purpose of ensuring a positive bond with the adhesive used to secure the windshield and back glass to the vehicle in a manner consistent with federal safety regulations.

Section 2. Applicability.

- (1) This regulation shall apply to:
 - (a) Each affected facility commenced on or after the classification date defined in Section 1 of this regulation and located in a county or portion of a county designated as non attainment for ozone in 401 KAR 51:010, for any classification except marginal; and
 - (b) Each affected facility commenced on or after the effective date of this regulation which is part of a major source located in a county or portion of a county designated attainment or marginal nonattainment for ozone in 401 KAR 51:010.
- (2) Each affected facility commenced on or after the classification date defined in Section 1 of this regulation but prior to the effective date of this regulation which is part of a major source located in a county or portion of a county designated attainment or marginally nonattainment for ozone in 401 KAR 51:010 shall be exempt from this regulation except that control devices and procedures required at the time it commenced shall continue to be operated and maintained.
- (3) The provisions of this regulation shall not apply to affected facilities which are subject to local air pollution district regulations which have been approved by the cabinet and the U.S. EPA.

Section 3. Standard for VOCs.

No person shall cause, allow, or permit an affected facility to discharge into the atmosphere more than fifteen(15) percent by weight of the VOCs net input into the affected facility.

Section 4. Compliance.

- (1) In all cases the design of a control system is subject to approval by the department.
- (2) Compliance with the standard in Section 3 shall be demonstrated by a material balance unless the department determines that a material balance is not possible. If a material balance is not possible, compliance shall be determined based upon an engineering analysis by the department of: the control system design, control device efficiency, control system capture efficiency, and other factors that could influence the performance of the system. If requested by the department, performance tests specified by the department shall be conducted to determine the efficiency of the control device. Capture efficiency shall be determined by the procedures specified in 401 KAR 50:047 in all ozone nonattainment areas except marginal.
- (3) With the prior approval of the department, the owner or operator may elect to effect all changes necessary to qualify for an exemption under Section 6.
- (4) If deemed necessary by the department, the department shall obtain samples of the coatings used at an affected facility to verify that the coatings meet the requirements in Section 6. Method 24, which has been incorporated by reference in 401 KAR 50:015, shall be used as applicable to determine compliance of the coatings unless the department determines that other methods would be more appropriate. Case-by-case alternatives approved by the cabinet, but not previously authorized by the U.S. EPA, shall be submitted to the U.S. EPA as a SIP revision.
- (5) Compliance on one (1) coating line with VOC emission limits shall be based on an averaging period not to exceed twenty-four (24) hours. If

it is not economically or technically feasible to determine emissions on a daily basis, alternatives expressing emission limits for longer averaging times may be accepted if approved by the cabinet. Case-by-case alternatives approved by the cabinet, but not previously authorized by the U.S. EPA, shall be submitted to the U.S. EPA as a SIP revision.

- (6) The amount of exempt solvents shall be subtracted from the amount of coatings, just like water, with the ultimate value of interest being the mass of VOC per unit volume of coating less exempt solvent or water or both.
- (7) Calculations to determine equivalency on one (1) coating line shall be based on mass of VOC per volume of solids. Vinyl plastisols and organosols shall not be included in VOC equivalency calculations that are required to be included in applications for VOC bubbles.
- (8) Daily records shall be maintained by the source for the most recent two (2) year period. The record shall be made available to the cabinet or the U.S. EPA upon request. The records shall include, but not limited to, the following:
 - (a) Applicable regulation number;
 - (b) Application method and substrate type;
 - (c) Amount and type of adhesive, coating (including catalyst and reducer for multicomponent coatings), or solvent used at each point of application, including exempt compounds;
 - (d) The VOC content as applied in each adhesive, coating, or solvent;
 - (e) The date for each application for adhesive, coating, or solvent;
 - (f) The amount of surface preparation, clean-up, or wash-up solvent (including exempt compounds) used and the VOC content of each; and
 - (g) Oven temperature, if applicable.

Section 5. Compliance Timetable.

- (1) Affected facilities which were subject to this regulation as in effect on June 29, 1979, shall have achieved final compliance upon startup.
- (2) The owner or operator of an affected facility that, on or after the effective date of this regulation, becomes subject to this regulation for any reason other than construction, modification, or reconstruction shall be required to complete the following:
 - (a) A final control plan for achieving compliance with this regulation shall be submitted no later than nine (9) months after the date the affected facility becomes subject to this regulation.
 - (b) The control system contract or the exempt coatings and any accompanying process change contracts shall be awarded no later than eleven (11) months after the date the affected facility becomes subject to this regulation.
 - (c) On-site construction or installation of emission control equipment or process changes for exempt coatings shall be initiated no later than thirteen (13) months after the date the affected facility becomes subject to this regulation.
 - (d) On-site construction or installation of emission control equipment or process changes for exempt coatings shall be completed no later than seventeen (17) months after the date the affected facility becomes subject to this regulation.
 - (e) Final compliance shall be achieved no later than eighteen (18) months after the date the affected facility becomes subject to this regulation.
 - (f) If an affected facility becomes subject to this regulation because it is located in a county previously designated nonurban nonattainment or redesignated in 401 KAR 51:010 after November 15, 1990, final compliance may be extended to May 31, 1995, and the schedule in paragraphs (a) through (d) of this subsection adjusted

by the cabinet.

Section 6. Exemptions.

- (1) An affected facility shall be exempt from the provisions of Section 3 if the VOC content of coating is:
 - (a) Less than 0.52 kg/l of coating (4.3 lb/gal), excluding water, delivered to applicators associated with clear coat;
 - (b) Less than 0.42 kg/l of coating (3.5 lb/gal), excluding water, delivered to applicators associated with air or forced air-dried items or items subject to outdoor or harsh exposure or extreme environmental conditions;
 - (c) Less than 0.36 kg/l of coating (3.5 lb/gal), excluding water, delivered to applicators associated with color coat or first coat or untreated ferrous substrate; or
 - (d) Less than 0.05 kg/l of powder coating (0.4 lb/gal) delivered to applicators associated with no or infrequent color change, or a small number of colors applied.
- (2) The surface coating of the following metal parts and products are exempt from this regulation:
 - (a) The exterior of airplanes and marine vessels, but not parts for the exterior of airplanes and marine vessels that are coated as a separate manufacturing or coating operation;
 - (b) Automobile refinishing; and
 - (c) Customized top coating of automobiles and trucks, if production is less than thirty-five (35) vehicles per day.
- (3) An affected facility shall be exempt from the provisions of Section 3 if the total VOC emissions from all affected facilities subject to this regulation are less than or equal to twenty (20) tons per year.
- (4) Low-use coatings shall be exempt from Section 3 of this regulation if the plantwide consumption of these coatings in the aggregate is less than or equal to fifty-five (55) gallons during the previous twelve (12) months.
- (5) Glass primer with VOC content equal to or less than 6.9 lb/gal of glass primer, excluding water or exempt solvent or both, shall be exempt from this regulation.

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